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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/530,660

11/14/2005

Michel Delaage

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EXAMINER

CHAPEL, DEREK S

ART UNIT

PAPER NUMBER

2872

MAIL DATE

DELIVERY MODE

08/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/530,660

Applicant(s)

DELAAGE ET AL.

Examiner

Derek S. Chapel

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/14/05 & 4/7/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6,9-13 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 2-5,7,8,14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/7/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status Of Claims

1. This Office Action is in response to an amendment received 6/14/2005 in which Applicant lists claims 1-3 and 10-11 as being original, claims 4-7, 9, 12-19 as being previously presented, and claims 8 and 20 as being currently amended. It is interpreted by the examiner that claims 1-20 are pending.
2. It is further noted by the examiner that claims 4-7, 9, 12-13 are labeled as previously presented but are clearly currently amended and have been interpreted as such for this examination. In the future, claims with improper status identifiers will be held as non-compliant.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The Information Disclosure Statement(s) (IDS) filed on 4/7/2005 was considered.

Drawings

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "52" has been used to designate both a second base and

Art Unit: 2872

a second ring, because reference character "46" has been used to designate both a tubular member and a tubular piece and because reference character "19" has been used to designate both a fixed focal length focusing optics and a zoom focusing optics (see claims 10 and 11). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The disclosure is objected to because of the following informalities:
 - A. The specification is missing section headings;
 - B. "this lenses 56" should be changed to --These lenses 56-- on line 30 of page 14 of the specification.

Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

Art Unit: 2872

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

7. Claims 1-20 are objected to because of the following informalities:
- A. "Optical device" should be changed to --An optical device-- at the beginning of claim 1.
 - B. "Optical device" should be changed to --The optical device-- at the beginning of claims 2-8 and 14-15.
 - C. "Observation or analysis device" should be changed to --An observation or analysis device-- at the beginning of claim 9.

D. "Observation device" should be changed to --The observation device-- at the beginning of claims 10-13 and 16-20.

E. "characterized in that it comprises" is not clear since what exactly "it" is referring to and therefore for the purposes of this examination, "characterized in that it comprises" is interpreted to mean "characterized in that the optical device comprises" in claims 1 and 8 and is interpreted to mean "characterized in that the observation device comprises" in claims 12-13 and 16-20. Further claims 2-20 are objected to for inheriting the deficiencies of claim 1 through their dependency on claim 1.

F. "observation objective comprises an" should be changed to --observation objective comprises the-- at the end of claim 9.

G. "supported adapted" should be changed to --support adapted-- on line 6 of claim 9.

H. "fluorescence" should be changed to --fluorescent-- on the third lines of claims 13, 18, 19 and 20.

I. "towards second" should be changed to --towards a second-- on the third lines of claims 13, 18, 19 and 20.

Appropriate correction is required.

8. Claims 13, 18, 19 and 20 recite the limitation "the fluorescence light" on the third line. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kasahara, U.S. Patent Number 6,501,603 B2 (hereafter Kasahara).

11. As to claim 1, Kasahara discloses an optical device adapted particularly for the observation of specimens on a support in the field of biology (see the title and abstract; it is noted that a microscope objective can be used to observe whatever sort of specimen is desired), comprising a front surface located on the side of the specimen (see figure 4 and column 10, lines 24-29) or the like, to be observed and a rear surface oriented toward acquisition means of an image or a user (see column 10, lines 36 and 44; it is noted that the side opposite the object side is referred to as the "image side" and there must be either a user observing this image or an image acquisition means located on that side), characterized in that it comprises a combination of four aligned lenses (see figure 4) and in that the lenses are disposed in the following order from front to rear: a plano-convex lens (see figure 4, element d_1 and column 10, lines 24-30), a divergent meniscal lens (see figure 4, element d_2 and column 10, lines 24-30), a plano-concave lens (see figure 4, element d_{14} and column 10, lines 40-45) and a bi-convex lens (see figure 4, element d_{17} and column 10, lines 40-45), the plano-concave lens and plano-convex lens respectively being such as each to have on the one hand a

Art Unit: 2872

substantially flat surface and on the other hand a respective concave or convex surface (see figure 4, elements d_1 and d_{14}).

12. As to claim 6, Kasahara discloses the claims limitations of claim 1, characterized in that the two lenses located at the center of the optical device (see figure 4, elements d_2 and d_{14} and table 4 (N_d =index of refraction); it is noted that elements d_2 and d_{14} have indices of refraction of 1.75500 and 1.61340 respectively) have an index of refraction greater than the index of refraction of the lenses located at the outside of the optical device (see figure 4, elements d_1 and d_{17} and table 4 (N_d =index of refraction); it is noted that elements d_1 and d_{17} have indices of refraction of 1.45853 and 1.43875 respectively).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 9-12 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara, U.S. Patent Number 6,501,603 B2 (hereafter Kasahara) in view of Ganz et al., U.S. Patent Number 6,985,616 B2 (hereafter Ganz).

17. As to claims 9 and 12, Kasahara discloses the optical device of claim 1. Kasahara further discloses an observation objective (see figure 4 of Kasahara) for at least one portion of a specimen along an observation axis (see figure 4, the straight line running through the center of the lenses).

Kasahara does not specifically disclose an observation or analysis device for one or several specimens disposed on a support, particularly a plate, a positioning plate of the support adapted to ensure relative movement between the support and the axis of observation in a plane perpendicular to the axis of observation, whilst leaving free the vertical movement, illumination means of at least a portion of the specimen and acquisition means of an image at the objective outlet or that the observation device

comprises behind the optical device a filtration device having variable spectral properties.

However, Ganz discloses observation or analysis device (see figures 1, 10, 12, 14, 23 and 37-39 of Ganz) for one or several specimens (see figures 1 and 12, elements 125A-125F and 362 of Ganz) disposed on a support, particularly a plate (see figure 1, element 129 of Ganz), a positioning plate of the support (see figure 1, element 129 of Ganz) adapted to ensure relative movement between the support and the axis of observation in a plane perpendicular to the axis of observation (see figure 1, elements 115, 150 and 160, column 4, lines 7-39 and column 5, lines 51-57 of Ganz), whilst leaving free the vertical movement (this is interpreted by the examiner to mean that movement in the vertical direction is not required), illumination means of at least a portion of the specimen (see figure 14, element 194 and column 6, lines 14-27 of Ganz) and acquisition means of an image at the objective outlet (see figure 1, elements 135 and 155 as well as column 4, lines 7-39 of Ganz) and that the observation device comprises behind the optical device a filtration device having variable spectral properties (see figures 37-39, elements 352, 354 and 355 as well as column 20, lines 4-21 of Ganz).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical device of Kasahara to include the teachings of Ganz so that the observation or analysis device for one or several specimens disposed on a support, particularly a plate, has a positioning plate of the support adapted to ensure relative movement between the support and the axis of

observation in a plane perpendicular to the axis of observation, whilst leaving free the vertical movement, illumination means of at least a portion of the specimen and acquisition means of an image at the objective outlet and have the observation device comprise behind the optical device a filtration device having variable spectral properties, for the purpose of being able to support, adjust, illuminate and take a variety of different spectral images of the specimens being observed.

18. As to claim 10, Kasahara in view of Ganz disclose the claimed limitations of claim 9. Kasahara in view of Ganz further disclose that the acquisition means of an image comprise an objective with fixed focal length as the focusing optics (see figure 4 of Kasahara; it is noted that the objective of Kasahara, being used with the stage and camera system of Ganz, has a fixed focal length).

19. As to claim 11, Kasahara in view of Ganz disclose the claimed limitations of claim 9. Kasahara in view of Ganz further disclose that the acquisition means of an image comprise a zoom as the focusing optics (see column 7, lines 20-45 of Ganz; it is further noted that the examiner has interpreted that the camera '135' of Ganz is photographing through the fixed objective of Kasahara but has its own zoom optics).

20. As to claims 16 and 17, Kasahara in view of Ganz disclose the claimed limitations of claims 10 and 11. Kasahara in view of Ganz further disclose that the observation device comprises behind the optical device a filtration device having variable spectral properties (see figures 37-39, elements 352, 354 and 355 as well as column 20, lines 4-21 of Ganz).

21. Claims 13 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara, U.S. Patent Number 6,501,603 B2 (hereafter Kasahara) in view of Ganz et al., U.S. Patent Number 6,985,616 B2 (hereafter Ganz) as applied to claims 9-12 and 16-17 above, and further in view of Uchida et al., U.S. Patent Number 6,160,662 (hereafter Uchida).

22. As to claims 13 and 18-20, Kasahara in view of Ganz disclose the claimed limitations of claims 9-12.

Kasahara in view of Ganz do not specifically disclose that the observation device comprises on the path of fluorescent light a dichroic mirror returning a portion of this light towards a second observation means.

However, Uchida discloses a microscope comprising on a path of fluorescent light a dichroic mirror (see figure 4, element 201 and column 6, lines 58-65 of Uchida) returning a portion of this light towards a second observation means (see figure 4, element 204 and column 6, lines 58-65 of Uchida; it is noted that the first observation means is the ocular '41' and the second observation means is the CCD '204').

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the observation device of Kasahara in view of Ganz to include the teachings of Uchida so that on the path of fluorescent light there is a dichroic mirror returning a portion of this light towards a second observation means for the purpose of being able to observe the specimen both visually and record images of the specimen.

Allowable Subject Matter

23. Claims 2-5, 7-8 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

24. The following is a statement of reasons for the indication of allowable subject matter:

Claim 2 would allowable over the cited art of record, if rewritten in independent form including all of the limitations of the base claim and any intervening claims, for at least the reason that the cited art of record fails to teach or reasonably suggest the optical device characterized in that the lenses are assembled as two doublets, a front doublet with the plano-convex lens and a divergent meniscal lens and a rear doublet with the plano-concave lens and the biconvex lens, as generally set forth in claim 2, the device including, in combination with the features recited in claim 1. Claims 3-5 and 14-15 depend from claim 2 and would therefore be allowable for at least the same reasons as claim 2.

Claim 7 would allowable over the cited art of record, if rewritten in independent form including all of the limitations of the base claim and any intervening claims, for at least the reason that the cited art of record fails to teach or reasonably suggest the optical device characterized in that the plano-convex lens has a rear surface whose radius of curvature is comprised between -30 and -32.5 mm and a front substantially flat surface, a diameter comprised between 20 and 25 mm as well as the thickness at the center comprised between 2 and 4 mm, in that the divergent meniscal lens has a rear

Art Unit: 2872

surface whose radius of curvature is comprised between -22.5 and -25 mm and a front surface whose radius of curvature is comprised between -17 and -18.5 mm, a diameter substantially equal to the diameter of the plano-convex lens as well as a thickness at the center comprised between 1 and 2 mm, in that the plano-concave lens has a rear surface whose radius of curvature corresponds to the radius of curvature of the front surface of the biconvex lens, a diameter substantially identical to the diameter of the biconvex lens as well as a thickness at the center comprised between 1 and 3.5 mm, in that the rear biconvex lens has a rear surface whose radius of curvature is comprised between -28 and -30 mm and a front surface whose radius of curvature is comprised between 28 and 30 mm, a diameter comprised between 22 and 26 mm as well as a thickness at the center comprised between 4 and 7 mm, and in that the distance between the flat surfaces of the plano-concave lens and the plano-convex lens is comprised between 20 and 25 mm, all the values indicated for this device being adapted to be multiplied by a same coefficient to obtain a similar device by homothetic transformation, as generally set forth in claim 7, the device including, in combination with the features recited in claim 1.

Claim 8 would allowable over the cited art of record, if rewritten in independent form including all of the limitations of the base claim and any intervening claims, for at least the reason that the cited art of record fails to teach or reasonably suggest the optical device characterized in that it moreover comprises electroluminescent diodes disposed in a crown about its axis as well as a Fresnel lens interposed between the

Art Unit: 2872

diodes and the specimen, or the like, to be observed, as generally set forth in claim 8, the device including, in combination with the features recited in claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek S. Chapel whose telephone number is 571-272-8042. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Derek Chapel
DSC
8/17/2007

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